9

- **4**. The method of claim **3**, further comprising presenting the visual stimuli to the subject via a virtual reality display device
- 5. The method of claim 1, further comprising selecting the stimuli based on a traumatic event previously experienced by the subject.
- 6. The method of claim 1, wherein classifying the subject comprises:

applying weights to the extracted features, combining the weighted features; and

comparing the combined weighted features to a threshold.

- 7. The method of claim 6, wherein the threshold is selected responsive to at least one of an age of the subject, an ethnic background of the subject, a sex of the subject, and a baseline response of the subject.
- **8**. The method of claim **1**, further comprising classifying the subject as suffering from post-traumatic stress disorder with one of a neural network, a Bayesian network, a linear discriminant classifier, or a support vector machine.
- 9. The method of claim 1, wherein the plurality of physiological signals further comprise at least one of a respiratory rate signal, a finger pulse amplitude signal, an electrocardiographic signal, a skin conductance signal, and an electroencephalographic signal.
 - 10. A system for detecting stress disorder, comprising: an analog to digital converter (ADC), the ADC configured to record a plurality of physiological signals during a subject's exposure to a stimuli, the plurality of physiological signals comprising at least an interbeat interval signal and a skin conductance signal;
 - a feature extraction module configured to extract a feature from each of the plurality of physiological signals; and
 - a classification module configured to classify the subject into one of a first category indicating the subject is suffering from post-traumatic stress disorder, a second category indicating the subject is not suffering from

10

post-traumatic stress disorder, or a third category indicating the subject was exposed to a traumatic event but does not suffer from post-traumatic stress disorder based on a function of the extracted features.

- 11. The system of claim 10, further comprising a stimulus delivery system.
- 12. The system of claim 11, wherein the stimulus delivery system is configured to expose the subject to the plurality of audio and/or visual stimuli.
- 13. The system of claim 11, wherein the stimulus delivery system comprises a virtual reality display.
- 14. The system of claim 11, wherein the stimulus delivery system is configured to select the stimuli based on a traumatic experience previously experienced by the subject.
- 15. The system of claim 10, wherein the classification module is configured to classify the subject using at least one of a neural network, a Bayesian network, a linear discriminant classifier, or a support vector machine.
- 16. The system of claim 12, wherein the processor is configured to classify the subject by applying weights to the extracted features, combining the weighted features, and comparing the combined weighted features to a threshold.
- 17. The system of claim 16, wherein the threshold is selected responsive to at least one of an age of the subject, an ethnic background of the subject, a sex of the subject, and a baseline response of the subject.
- 18. The system of claim 10, wherein the extracted physiological features includes at least one of an area under one of the plurality of physiological signals from exposure to the stimuli to full recovery feature, an area under one of the plurality of physiological signals from exposure to the stimuli to half recovery feature, a peak amplitude feature, a standard deviation feature, a rise time from a first low point feature, a rise time from a first low point feature, and an average value feature.

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